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CHAPTER III METHOD OF RESEARCH

A. The Research Design

This research was a correlational research. Creswell (2012) stated that investigator used correlation statistical test to describe and measure the degree of association or relationship between two or more variables and sets of scores. Correlation designs provided an opportunity for researcher to predict scores and to explain the relationship among variables. This research consisted of two variables the first was students' self-efficacy as variable X and students' listening comprehension as variable Y. The figure out the relationship below.



B. The Location and the Time of the Research

This research was conducted at senior high school 4 Pekanbaru. The time of this research was in April 2017 in the academic year 2016/2017.

C. The Subject and Object of the Research

The subject of this research was the first year students of state senior high school 4. The Object of this research was the relationship between students' self-efficacy and their listening comprehension.

D. The Population and the Sample of the Research

The population of the research was the first year students of State Senior High School 4 Pekanbaru. The number of the first year students was

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380 students. There were 10 classes of the tenth grade students. There was Mia as science class and Iis as social class. The population was large enough. Therefore, the researcher used simple random sampling as a technique to take samples from 10 classes.

According to Singh (2006) a simple random sampling was technique for choosing the sample in which all the population get an equal and independent chance to be selected. Arikunto (2006) pointed out if the population more than one hundred, the researcher can take 10-15% or 20-25 or more. Based on the theory above, the researcher chose 20% of the population. Therefore, the number of the sample was 76 students and 20 samples for try out. The specification of population can be seen on the table below.

Table III.1
The Population of The First Year Students of
State Senior High School 4 Pekanbaru

Class	Number of students
X Mia 1	38
X Mia 2	38
X Mia 3	37
X Mia 4	38
X Mia 5	39
X Mia 6	38
X Iis 1	38
X Iis 2	39
X Iis 3	37
X Iis 4	38
Total	380

E. The Technique of Collecting the Data

In order to collect some data in this research, the researcher applied the technique as follows:

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1. Questionnaire

In order to get the data of students' self-efficacy the researcher used a questionnaire. The researcher used Likert scale questionnaire. According to Cohen (2007) a Likert scale provides a range of responses to give a question or statement. The questionnaires consisted of 20 items in which there was 1 up to 5 scale. The questionnaires given to the students were to obtain their self-efficacy in listening comprehension.

Table III.2
Blue Print of Self-efficacy Questionnaire

Indicators	Number of Items	Items
The students believe about their ability	7	1,4,7,10,13,15,17
The students improve their ability	7	2,5,8,11,14,16,18
The students show their ability in social situations	6	3,6,9,12,19,20

2. Listening Test

The students were given a listening test that discussed in operational concept. In order to get the description of the answer of the test, the data were analyzed by using this formula:

$$\frac{\text{Number of correct answer}}{\text{number of items}} \times 100$$

Table III.3
Blue Print of Listening Test

Indicators	Number of Items	Items
The students find the gist of information	4	1,6,11,16
The students listen for specific details	4	2,7,12,17
The students recognize supporting details	4	3,8,13,18
The students identify the speakers' attitude	4	4,9,14,19
The students make differences	4	5,10,15,20

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F. Validity and Reliability

1. Validity of Instrument

According to Brown (2003), content validity was partly a matter of determining if the content that instruments contain was an adequate sample of the domain of content it was supposed to represent. Content validity just focused on how well the items represented the intended area. Brown (2008) stated that validity was the individual's score from an instrument that made sense, meaningful, draw good conclusion from the sample you were studying to the population. It means that validity was the extent to which inferences made from assessment result were appropriate, meaningful, and useful in terms of the purpose of assessment.

a. Validity of Questionnaire

The researcher determined the validity by referring to the material that was related to indicators of self-efficacy itself. To analyze X variable, the researcher uses Microsoft Excel program. The researcher used the item analysis in which the item scores are correlated with the total score. The standard value of validity was $r_{pb} > r_{table}$. Based on the result of tryout of the instrument to the 20 students, it showed that all of the items were valid. The value of r_{table} was 0,4438. The result of try out was as follows:

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Table III.4
The Analysis of Self-efficacy Questionnaire Validity

Item number	r-item	r-table	Result
1	0.47	0.4438	Valid
2	0.52	0.4438	Valid
3	0,54	0.4438	Valid
4	0.64	0.4438	Valid
5	0.53	0.4438	Valid
6	0.48	0.4438	Valid
7	0.55	0.4438	Valid
8	0.49	0.4438	Valid
9	0.49	0.4438	Valid
10	0.46	0.4438	Valid
11	0.47	0.4438	Valid
12	0.54	0.4438	Valid
13	0.49	0.4438	Valid
14	0.57	0.4438	Valid
15	0.48	0.4438	Valid
16	0.56	0.4438	Valid
17	0.45	0.4438	Valid
18	0.55	0.4438	Valid
19	0.58	0.4438	Valid
20	0.46	0.4438	Valid

b. Validity of Listening Comprehension

The test can be valid if it measured accurately whether the test was appropriate, meaningful, and useful. The researcher determined validity by referring material to the material related to the indicator of curriculum 2013. Based on the result of try out given 20 students, it showed that all of the items were valid. The value of r_{table} was 0.4438. The result of try out was as follows:

UIN SUSKA RIAU

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Table III.5
The Analysis of Listening Comprehension Test Validity

Item number	r-item	r-table	Result
1	0.58	0.4438	Valid
2	0.56	0.4438	Valid
3	0.59	0.4438	Valid
4	0.58	0.4438	Valid
5	0.57	0.4438	Valid
6	0.54	0.4438	Valid
7	0.60	0.4438	Valid
8	0.47	0.4438	Valid
9	0.47	0.4438	Valid
10	0.59	0.4438	Valid
11	0.53	0.4438	Valid
12	0.55	0.4438	Valid
13	0.49	0.4438	Valid
14	0.46	0.4438	Valid
15	0.64	0.4438	Valid
16	0.47	0.4438	Valid
17	0.47	0.4438	Valid
18	0.55	0.4438	Valid
19	0.55	0.4438	Valid
20	0.61	0.4438	Valid

2. Reliability of Instrument

Brown (2003) stated that reliability had to do with accuracy of measurement. This kind of accuracy was reflected in obtaining of similar result when measurement was repeated on different occasion or with different instrument or by different person. The reliability test was consistent and dependable.

The table below was categorized of reliability of reliability test used in determining the level of reliability of the test (Cohen, Manion, & Morrison, 2007)

Table III.6
The Level of Reliability

Reliability	Level of Reliability
>0.90	Very High
0.80-0.90	High
0.70-0.79	Reliable
0.60-0.69	Marginally/Minimally
<0.60	Unacceptably Low

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a. Reliability of Questionnaire

To obtain the reliability of the questionnaire given, the researcher used SPSS 20.0 program to find out whether the questionnaire reliable or not.

Table III.7
The Analysis of Questionnaire Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.857	20

From the table above, it can be seen the value of cronbanch's alpha was 0.857. Based on the table of reliability, the questionnaire was categorized high reliable.

b. Reliability of Listening Comprehension

In this listening comprehension test, the researcher made the test based on the material that related to tenth grade in curriculum 2013 at senior high school 4 Pekanbaru.

Table III.8
The Analysis of Listening Comprehension Test Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.876	20

From the table above, it can be seen the value of cronbach's alpha was 0,862. Based on the table reliability, the test was categorized high reliable.

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G. Technique of Data Analysis

To analyze the data the researcher used Pearson Product Moment Correlation on SPSS 22.0 program. According Hartono (2008) product moment correlation technique is used when the two types of the data correlated are interval. In this research, the researcher wanted to find positive correlation between two variables. According to Singh (2006) correlation between two or more quantifiable variables could be positive or negative. He said that it is positive correlation when an increase (or decrease) of a variable is followed by an increase (or decrease) of the other. Sudijono (2008) pointed out the formula to analyze the percentage of students' self-efficacy as follows:

$$P = \frac{f}{N} \times 100 \%$$

Where:

- P = Number of percentage
 F = Obtained frequency
 N = Number of frequency/sample

Riduwan (2010) indicated the scale to classify the gained percentage of questionnaire as follows:

1. 81% - 100% categorized into very high level
2. 61% - 80% categorized into high level
3. 41% - 60% categorized into high enough level
4. 21% - 40% categorized into low level
5. 0% - 20% categorized into very low level

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To know the students' listening comprehension, the researcher used the idea of Sugiyono (2009) as illustrated below:

$$Me = \frac{\sum fixi}{\sum fi}$$

Where:

Me = Mean

$\sum fi$ = Number of sample

fixi = Multiplication of fi (frequency) and xi (class mark) in each interval

To know if there is a correlation between self-efficacy and their listening comprehension, the researcher used Pearson Product Moment Correlation on SPSS 22.0 program,

Statistically, the hypotheses are (Siregar, 2013):

H_0 is accepted if $\text{sig} \geq \alpha$: there is no significant correlation between students' self-efficacy and their listening comprehension.

H_a is accepted if $\text{sig} < \alpha$: there is a significant correlation between students' self-efficacy and their listening comprehension.